



Bridging the Digital Divide: Zambia's Emerging Tech Frontier

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Abstract

This chapter analyzes Zambia's digital transformation path, emphasizing the ongoing digital divide and the potential arising at the convergence of technology, policy, and society. Although internet subscriptions exceeded 13 million by 2024, hardly one-third of Zambians are active internet users, highlighting significant differences in meaningful access. The disparities are especially evident across urban and rural communities, among socio-economic classes, and along gender lines, with women and rural populations being disproportionately marginalized. Notwithstanding these obstacles, Zambia's digital landscape is vibrant: mobile money serves as the foundation of financial inclusion, AgriTech innovations like Lima Links and AgriPredict are empowering smallholder farmers, and e-government platforms like as ZamPortal are enhancing public service delivery. Simultaneously, colleges, innovation centers, and community organizations are cultivating digital competencies that can harness Zambia's youthful demographic advantage. The chapter contends that closing the digital divide necessitates intentional, inclusive initiatives that amalgamate governmental policy, private sector innovation, research capabilities, and grassroots involvement. Zambia is poised for a significant transition from a resource-dependent to a knowledge-driven economy, contingent upon the expedited investment in infrastructure, affordability, skills, trust, and inclusiveness.

Keywords: *Zambia; digital transformation; digital divide; mobile money; AgriTech; e-government; digital skills; inclusion; innovation; ICT policy*

1. Introduction

Zambia's economy has relied significantly on copper mining, agriculture, and foreign assistance for decades. A new economic story is swiftly emerging, increasingly influenced by information, connectivity, and innovation rather than by minerals and agriculture. As the 21st century progresses, Zambia finds itself at a critical juncture where closing the digital divide is essential for equitable development.

A Significant Disparity: Internet Access and Connectivity

The accessibility of the Internet in Zambia has significantly increased, however it remains unevenly dispersed. Official statistics from late 2023 reveal over 12.6 million internet subscriptions, equating to about 64.1% penetration; however, these estimates may exaggerate real usage, as numerous users possess multiple SIM cards or subscriptions (Frąckiewicz, 2025). Conversely, DataReportal indicates that merely 6.51 million individuals were active internet users in early 2024, constituting 31.2% of the population (DataReportal, 2024). Recent projections for early 2025 indicate that internet usage will reach approximately 7.13 million individuals, or 33.0% of Zambia's population (DataReportal, 2025). These disparities underscore the chasm between rudimentary infrastructure and substantive access.

Nonetheless, infrastructure is undergoing expansion. Mobile broadband, encompassing both 3G and 4G technologies, currently reaches around 96% of the population, facilitated by nearly 3,500 cellular tower installations, with annual incremental expansions (Frąckiewicz, 2025). This indicates robust foundational development, despite potential delays in practical utilization.

Disparity: Who Remains Neglected?

The digital divide in Zambia is evident across various dimensions: geographical, socio-economic, and institutional. Urban centers like Lusaka, Ndola, and Kitwe enjoy considerable access to smart cellphones, reliable networks, and technological services. Conversely, numerous rural and underprivileged regions encounter obstacles such as inadequate infrastructure, sporadic connectivity, and diminished digital literacy.

The UNCDF Inclusive Digital Economy Status Report (2022) indicates that 47% of Zambians were not digitally included at that time. Digital exclusion is particularly evident in rural areas, where 56% of rural Zambians lack access to digital resources. Additionally, a significant gender disparity exists, with a 34% digital divide disadvantaging rural women (UNCDF, 2022).

These figures are not simply statistics; they signify genuine obstacles to opportunity provided by internet connectivity. In rural areas, smallholder farmers consistently depend on traditional systems for market information, pricing, and extension services. In the absence of real-time access to digital technologies, these farmers are deprived of market efficiencies that could enhance their livelihoods. Likewise, entrepreneurial Zambian youth in urban and peri-urban regions skilled in coding, e-commerce, and digital marketing are frequently distanced by a significant digital divide from their rural counterparts.

Consequently, bridging Zambia's digital divide is imperative, not merely to guarantee fair inclusion but also to realize the complete potential of its youthful, entrepreneurial demographic.

2. Digital Divide in the Zambian Context

i. Accessibility Disparities Between Urban and Rural Areas

Urban and rural Zambia continue to exhibit substantial disparities, regardless of the expansion of connectivity. The World Bank's 2023 global analysis revealed that urban residents in Africa have an average internet access rate of approximately 47%, while rural residents have an average of only 12% (World Bank, 2023). This disparity underscores the extent of infrastructural inequality. This broader pattern is mirrored in Zambia, where urban centers like Lusaka, Ndola, and Kitwe have more dependable access to 4G networks and fixed broadband, while rural communities frequently experience unreliable energy supply, limited network infrastructure, and low-bandwidth connections.

ii. Infrastructure vs. Usage: User Reality vs. Subscription

The complexity of access is underscored by the discrepancy between internet subscriptions and unique users in Zambia. ZICTA reported approximately 12.6 million internet subscriptions as of December 2023, which equates to a penetration rate of over 64%. Nevertheless, these figures are exaggerated because of the ownership of multiple SIM cards. The World Bank (2023) estimates that only 6.51 million unique internet users, or 31.2% of the population, are online, with approximately 68.8% of the population remaining offline, according to more precise assessments such as DataReportal (2024). This discrepancy indicates that infrastructure alone does not ensure meaningful access.

iii. Dependence on Mobile Connectivity

Mobile networks are the primary method of internet access for Zambians. In 2023, fixed-line connections were scarce, with only approximately 99,000 subscribers nationwide, while mobile broadband is utilized by more than 99% of users. The significance of ensuring affordable data and accessible devices to expand inclusion is underscored by this reliance on mobile technology.

iv. Cost of Data

The cost of data is always on the higher side in many emerging economies. In some places, data may be accessible, but affordability remains a challenge. The high cost of data makes many people only have connectivity occasionally. This widens the connectivity gap in Zambia.

v. Connection Quality and Speed

Although internet speeds are increasing, they continue to be modest. The median mobile download bandwidth increased from approximately 15 Mbps in early 2023 to approximately 19.6 Mbps by February 2024. During the same period, the pace of fixed broadband increased from approximately 8.7 Mbps to 21.3 Mbps (Frackiewicz, M., 2025). These improvements are beneficial to urban users; however, they may not be sufficient to facilitate advanced digital services in remote regions.

vi. Gender-Based and Socioeconomic Exclusion

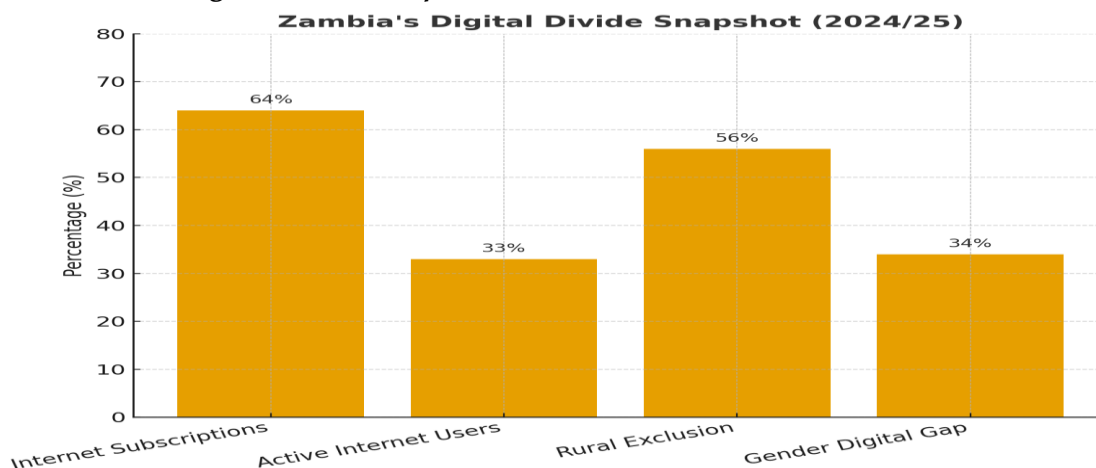
According to the 2022 UNCDF Inclusive Digital Economy Status Report, Zambia has a digital inclusion disparity of 47%, which translates to nearly half of the population lacking meaningful digital engagement. Coverage disparities are particularly severe in rural areas, where 56% of the population is digitally excluded, and among women, where a 34% gender digital divide persists

(UNCDF, 2022). These discrepancies serve to emphasize that digital exclusion exacerbates preexisting social and economic disparities.

vii. Emerging Bridging Initiatives

Despite these obstacles, progress is being made in the effort to reduce the divide. Equipment, training, and platforms for economic and educational participation are being provided by UN-supported ICT centers in rural areas (United Nations DCO, 2024). Additionally, digital literacy initiatives that target women and girls, such as training on digital financial services, cyber safety, and online engagement, are gathering momentum, thereby facilitating more inclusive participation.

Figure 1: Zambia's Digital Divide Snapshot



3. Opportunities at the Emerging Tech Frontier

Opportunities for technological advancement continue to rise. A few are discussed below.

Fintech and Mobile Money as the Gateway to the Digital Economy

Mobile money continues to be Zambia's most rapidly expanding digital application, serving as an effective conduit from cash to the broader digital economy. National payments data indicate sustained growth in mobile transactions through 2024, while research on Zambian remittances reveals that mobile money has become the predominant method for sending and receiving funds, with approximately 56.8% of senders and 88.4% of recipients utilizing this channel, thereby solidifying its position as a mass-market digital gateway (Bank of Zambia; VoxDev synthesis). The global State of the Industry 2025 indicates an increase in interoperability use cases throughout Sub-Saharan Africa, which Zambia can utilize e.g., bank-to-wallet; wallet-to-bank (Bank of Zambia, 2025; Suri et al., 2023; GSMA, 2025).

Digital infrastructure facilitates peer-to-peer remittances, micro, small, and medium enterprise payments, and government-to-person transfers, particularly when combined with policy reforms that reduce data and device expenses and eliminate obstacles in the mobile money value chain. The GSMA Zambia policy study (2024) posits that a targeted reform initiative (e.g., reduction of

sector-specific taxes and fees; modernization of tariff regulation; removal of price restrictions and levies on mobile money) might increase internet users by 2.1 million by 2028, therefore reducing the usage gap by 9 percent (GSMA, 2024; GSMA press release, 2025).

AgriTech for Smallholder Farmers and Rural Micro, Small, and Medium Enterprises
Zambia's agricultural sector is well-suited for USSD-based and AI-enhanced services compatible with basic mobile phones and entry-level smartphones. USSD-based refers to services and interactions that use Unstructured Supplementary Service Data (USSD) technology, a real-time communication protocol that enables menu-driven services and text-based conversations between a phone and a service provider's network without needing an app or internet connection. It is particularly useful for basic mobile phones and in areas with limited internet access, facilitating real-time mobile banking, bill payments, information services, and more.

AgriPredict, a Zambian start-up, provides agricultural and livestock advisory services through an application and USSD (*404# on MTN/Zamtel), reducing the barriers of skill and device access for rural consumers. Established farmer-oriented market information systems like Lima Links (USSD *789#) demonstrate how "price transparency combined with a user-friendly interface" can alter farmer behavior and enhance bargaining power, an approach reflected in the African Development Bank's analysis of digital agriculture in Zambia (AgriPredict, n.d.; ProAgri, 2019; African Development Bank, 2023).

This tech frontier provides pragmatic advantages including enhanced input selection, climatic and pest risk notifications, and superior market accessibility without the necessity of universal smartphones or fiber optics. Zambia may now integrate these tools with G2P/digital ID to more accurately target climate and drought assistance (African Development Bank, 2023).

Educational Technology and Digital Competency Pathways

A sustainable digital transformation requires competencies, not merely SIM cards. Zambia's Digital Zambia Acceleration Project (DZAP), part of the World Bank's regional Inclusive Digitalization (IDEA) MPA, encompasses a skills initiative aimed at cultivating employment-ready digital competencies while digitizing high-impact governmental services, thereby generating demand and supply for technological talent. UNESCO's supplementary evidence underscores policy insights for assessing and expanding EdTech inside African systems, particularly Zambia (World Bank/DZAP, 2024; UNESCO, 2023).

This facilitates a continuum from fundamental digital literacy to foundational ICT and work-ready competencies (e.g., coding, cloud computing, data analysis) integrated into TVET and university curricula, supplemented by short courses or bootcamps facilitating employment readiness. Integrating mobile-first education with community ICT hubs can broaden accessibility beyond Lusaka, Kitwe, and Ndola (World Bank/DZAP, 2024).

E-Government, Integrated E-Services, and MSME Formalization

The government's National e-Government Plan (2023–2026), and Digital Transformation and Change Management Strategy seek to digitize essential services and internal processes. ZamPortal consolidates access to services like taxation, transportation, and licensing for citizens

and businesses, while PACRA's online platforms facilitate company registration, returns, and business verification, hence reducing entry costs and time for MSMEs. The recent IMF review recognizes Zambia's advancements in digitizing registration, while advocating for additional simplification to facilitate business establishment. (SMART Zambia, 2023–2024; ZamPortal; PACRA; IMF, 2025).

This reduces friction initiating, operating, and expanding a business; establishing a broader framework for taxation and social protection; and enhancing data for strategic planning. Current "Smart Office" pilots indicate an upgrading of back-office operations to enhance efficiency and service quality in the public sector (TechAfrica News, 2025).

Digital Identification, Electronic Know Your Customer, and Targeted Service Provision

Zambia is progressing in digital public infrastructure (DPI) and has released a general procurement notice for a digital ID and trust services program under DZAP, collaborating with MOSIP and OpenG2P on pilot projects linking ID to service delivery, including drought-relief targeting. Efforts are underway to link MOSIP with SmartCarePro (EHR) for health electronic Know Your Customer (e-KYC) purposes. These foundational elements facilitate more secure onboarding for financial services, SIM registration, and public services (Biometric Update, 2025; MOSIP Rewind, 2024; IDTechWire, 2025; OpenG2P, 2025).

This facilitates effortless electronic Know Your Customer (e-KYC) for financial institutions and mobile money services, transferable credentials for students and employees, and accurate government-to-person (G2P) payments, particularly when associated with mobile wallets or accounts.

Digital Procurement and Open Contracting

The Electronic Government Procurement (e-GP) platform of Zambia, managed by ZPPA, encompasses the entire tender lifecycle online. Academic and advisory evaluations indicate advancements and obstacles in adoption; however, the trajectory is evident: standardize and digitize procurement to reduce expenses, enhance transparency, and bolster competitiveness. ZPPA; ZPPA e-GP; Bubala, 2024; Open Contracting Partnership, 2019.

This facilitates accelerated onboarding of MSMEs as government suppliers, enhanced analytics on expenditures, and diminished leakages, particularly when integrated with digital identification for vendor verification and interoperable payment systems.

Energy Technology and Digital Payments for Inclusive Access

Off-grid mini-grids and PAYGo solar models, sometimes financed using mobile money, enhance rural electrification and facilitate profitable applications such as retail cooling, milling, and welding. ENGIE Energy Access is implementing mini-grids extensively in Zambia, with 15 launched in 2024 and a projected pipeline of 60 to 71 sites through 2025-2026, supported by impact and performance assessments. Clean-cooking programs, such as MCFA, are expanding through digital finance. These energy-digital synergies broaden the accessible market for online services,

trade, and education (PV-Magazine press release, 2024; SolarQuarter, 2024; ENGIE Energy Access Impact Report, 2024/25; NEFCO/MCFA, 2024).

This facilitates dependable energy, and digital transactions enhance the feasibility of rural ICT centers, cold storage for agriculture, and extended nighttime educational opportunities – exponentially increasing the returns on connectivity investments.

4. Consolidating Priorities: Focus Areas (2025–2028)

- a. Policy enablers: To get the maximum from increased use of the internet, there is need to execute the GSMA reform package (rationalization of taxes/fees, modernization of tariffs, establishment of cost-reflective investment frameworks; eliminate mobile-money levies and price limitations that inhibit usage). GSMA refers to Global System for Mobile Communications Association. This is global industry organization that represents mobile network operators and other companies in the mobile ecosystem. It was founded in 1995 and focuses on promoting innovation, connectivity, security, and policy to ensure everyone has access to mobile services. It has evolved from supporting the original GSM standards to driving technological advancements like 5G and IoT, advancing mobile connectivity for all, and offering industry-leading data and insights through GSMA Intelligence.
- b. Put the Digital Public Infrastructure at speed: Implement stand-alone digital identification and electronic Know Your Customer protocols associated with financial services and electronic governance; expand Open Government to Person initiatives for targeted social and climate assistance.
- c. Sector initiatives: Intensify focus on AgriTech (USSD + AI), EdTech/skills (DZAP), e-procurement, and energy-digital integrations that enhance rural demand.

5. Challenges to Overcome in the Tech Frontier

Despite the significant potential of Zambia's digital future, it is imperative to confront several persistent obstacles to facilitate sustainable and inclusive transformation. All these challenges are interconnected, affecting infrastructure, affordability, talents, policy, and trust.

Infrastructure Gaps: Coverage vs. Meaningful Access

Even though mobile coverage is nearly universal on paper, it does not always materialize into meaningful connectivity. Zambia had more than 13.5 million internet subscriptions as of early 2025 (ZICTA, 2025). However, only 7.13 million unique individuals were online, which is approximately 33% of the population (Kemp, 2025). Weak signals, high latency, or complete dead zones are frequently encountered in rural communities in provinces such as Western, Luapula, and Muchinga. This issue is further worsened by electricity constraints. Rural electrification remains below 40%, which restricts the reliability of towers and device charging (World Bank, 2020). Zambia had fewer than 100,000 fixed broadband subscribers in 2023; fixed broadband is nearly absent outside of Lusaka and Copperbelt (Frackiewicz, 2025). This reality underscores the

importance of last-mile connectivity, which is achieved through rural towers, satellite links, and community ICT centers.

Exorbitant Device and Data Costs

Cost barriers constrain Zambia's mobile-first digital economy. DataReportal (2024) discovered that the average bundle costs in Sub-Saharan Africa are among the highest in relation to income, rendering regular internet use a luxury for low-income households. According to the GSMA (2024), the reduction of sector-specific taxes and the modernization of tariff regulations could result in an additional 2.1 million users online by 2028.

Device affordability is also a barrier, as many Zambians are unable to afford entry-level smartphones, despite the importation of cheaper Chinese and refurbished brands. The cost of a 2 GB data bundle can exceed the weekly allowance of a peri-urban student in Chisamba or Chongwe, thereby restricting their access to e-learning platforms.

Skills Gaps and Digital Literacy

Uptake is impeded by limited digital literacy, even when access is available. According to the UNCDF Inclusive Digital Economy Report (2022), 47% of Zambians were not digitally included, with digital exclusion being more prevalent among women (34% gender disparity) and in rural areas (56%). Numerous novice users are uncertain about how to navigate online marketplaces, e-government portals, or mobile money applications.

Zambia's youthful population, nearly 60% of which is under the age of 25, is a demographic asset. However, the country is at risk of generating a digitally disconnected youth bulge in the absence of systematic training. ICT curricula in schools and universities are undergoing improvement; however, they are still inconsistent, frequently reliant on theory and disconnected from market necessity (World Bank, 2020).

Market, Regulatory, and Policy Obstacles

The regulatory environment has occasionally been behind the pace of innovation. The introduction of mobile money levies in 2025 has raised concerns regarding financial inclusion. ICTD (2023) has cautioned that these taxes may discourage low-income users from conducting minor transactions. Private investment in new antennae or fiber networks is discouraged by uncertainty regarding tariff regulations and sector fees (GSMA, 2024). The implementation of national strategies, such as the Smart Zambia Master Plan, is impeded by fragmentation across ministries and agencies. Zambia is at risk of impeding start-ups and deterring foreign direct investment in digital infrastructure in the absence of a coherent, innovation-friendly policy framework. However, the government of the Republic of Zambia has recently enacted the Cybersecurity Act to regulate the tech-environment.

Consumer Protection, Cybersecurity, and Trust

Trust in digital platforms becomes a significant obstacle as more Zambians transition to the internet. Mobile money fraud, SIM-swap schemes, and online loan sharks undermine confidence,

particularly among novice users. Since 2022, ZICTA has reported an annual increase in cybercrime complaints, with social engineering and phishing being the most prevalent. The gap is further worsened by inadequate enforcement of consumer protection frameworks and inadequate awareness of cyber safety. A single negative experience can result in a persistent digital withdrawal for a rural woman in rural provinces who loses her savings to a fraudulent MoMo SMS.

Obstacles to Inclusion and Gender

In Zambia, digital exclusion is not solely geographical; it is also social. Cost, literacy, and cultural conventions constitute triple obstacles for women residing in rural regions. Rural women are 34% less likely to be digitally included than men, according to the United Nations Center for Development and Cooperation (2022). Accessibility barriers in platform design and device affordability are also encountered by individuals with disabilities. In the absence of intentional inclusion strategies, such as gender-responsive digital literacy programs, targeted device financing, and accessibility standards, the divide could exacerbate existing inequalities.

Service Delivery and Institutional Capacity

Institutional capacity to administer, scale, and promote these services remains inconsistent, even though Zambia has implemented e-government initiatives such as ZamPortal and PACRA's online registry. Numerous citizens are either oblivious of the platforms that are available or lack the necessary support to utilize them. To provide digital services in an expedient manner, public servants frequently require retraining. Citizen confidence in digital systems is undermined, and adoption is impeded by a government portal that crashes or delays processing. As technology users increase the capacity of the network providers gets stressed up leading compromised service delivery. This is worsened by the increased number of hours of power outages of more than 12 hours daily.

6. Towards an Inclusive Digital Zambia

Zambia's digital transformation hinges not solely on technological progress but also on guaranteeing that every citizen, irrespective of location, gender, or income, can actively engage in the digital economy. Inclusivity should be a fundamental value, not a secondary consideration.

Government as a Facilitator of Universal Access

The Zambian government has made progress through efforts including the Smart Zambia Master Plan, the Digital Transformation and Change Management Strategy (2024–2026), and the National e-Government Plan. These frameworks seek to digitize governmental services, improve internal processes, and enhance digital accessibility across several sectors (SMART Zambia, 2024). ZamPortal currently serves as a comprehensive platform for business registration, tax filing, and licensing, hence minimizing time and expenses for businesses (PACRA, n.d.). The government

has pledged to enhance digital ID systems, bolstered by international collaborations with MOSIP and the World Bank's Digital Zambia Acceleration Project (DZAP), facilitating e-KYC, interoperability, and improved targeting of social benefits (Biometric Update, 2025; World Bank, 2024). These projects exhibit significant purpose; nonetheless, inclusivity necessitates the expansion of these platforms beyond Lusaka and provincial capitals into rural districts, where residents frequently lack awareness, devices, or the confidence to participate.

The Private Sector as a Catalyst for Innovation

The private sector in Zambia, especially in fintech, AgriTech, and EdTech, is innovating services that enhance digital accessibility for underserved areas. Mobile money services (MTN MoMo, Airtel Money, ZamPay) have emerged as the cornerstone of financial inclusion, with transaction values exceeding K452 billion in 2023 (UNDP, 2024).

Start-ups such as AgriPredict and Lima Links furnish farmers with instantaneous crop guidance and market data through USSD codes, thereby rendering digital services accessible on basic mobile devices (ProAgri, 2019). EdTech companies like Mwabu and Eneza are enhancing digital learning solutions that correspond with Zambia's curriculum, facilitating access for students in rural regions. The challenge for inclusion is to expand these solutions cost-effectively while assuring their integration with national systems, including e-government platforms and financial infrastructure.

Universities and Research Institutions as Catalysts for Capacity Development

Institutions like ZCAS University, and other Higher Education Institutions (HEIs) are essential in equipping the workforce for Zambia's digital future. Universities are incorporating ICT literacy and digital entrepreneurship into their courses. They are establishing innovation hubs (e.g., Technopreneurship Hub at ZCSAS University, EcoRise Innovation Hub Zambia) that facilitate start-ups, hackathons, and applied research. They are collaborating with industry to develop concise digital skills programs focused on coding, digital marketing, and e-commerce. By connecting academic research with practical business concerns, universities facilitate digital transformation that fosters not only consumers but also creators of technology.

Communities and Civil Society as Grassroots Advocates

Local groups, NGOs, and community leaders are essential in promoting digital literacy and awareness. UNCDF initiatives in Zambia focus on rural women, providing training in mobile money, digital agriculture, and safe internet usage, thereby reducing the 34% gender digital divide (UNCDF, 2022). Organizations such as Restless Development Zambia have initiated youth-led digital training camps to assist young individuals in establishing online enterprises and civic initiatives. Community ICT hubs, frequently backed by donor-funded programs, offer access to shared gadgets, internet connectivity, and training in remote areas.

These programs establish digital inclusion within local contexts, assuring that services are culturally pertinent, reliable, and matched with community requirements.

Collaborations for Equitable Development

No individual entity can accomplish digital inclusion independently. Effective models rely on collaborations among multiple stakeholders. Government-private partnerships can subsidize the deployment of rural towers and integrate connections with off-grid energy solutions, such as ENGIE's PAYGo solar mini-grids financed by mobile money transactions.

Donors and development partners (World Bank, UNDP, GSMA) can mitigate risks associated with infrastructure investment, facilitate policy reforms, and expand successful pilot programs. Chieftoms and traditional leaders can validate community-level adoption, as seen in pilot programs where chiefs have advocated for ICT centers and digital agriculture platforms. Partnerships guarantee that inclusivity transcends mere policy rhetoric, evolving into a collective national initiative.

Establishing Trust and Safeguarding Citizens

Inclusivity encompasses safety and trust inside digital systems. The escalation of cybercrime and fraud undermines trust in mobile money and e-commerce. ZICTA has issued a warning against phishing schemes, SIM-swap fraud, and counterfeit loan applications. In the absence of protection, numerous first-time users, particularly women and the elderly, refrain from engaging in digital participation. Enhancing cybersecurity frameworks, consumer protection legislation, and digital awareness about safe practices is essential to guarantee that inclusion encompasses secure participation.

7. Inclusion as Zambia's Digital Guiding Principle

Zambia's trajectory towards digital transformation must be intentionally inclusive to avoid excluding millions of individuals in rural, low-income, and marginalized regions. Inclusivity is not an act of charity; it serves as an economic catalyst. By synchronizing governmental leadership, private sector innovation, academic capabilities, community involvement, and international collaborations, Zambia can establish a Digital Nation for All. If executed correctly, bridging the divide will generate a digital dividend that enhances productivity, offers employment possibilities, empowers women and youth, and guarantees that no person is excluded from the opportunities of the 21st century.

8. Conclusion: A Nation at a Critical Juncture

Zambia's transition into the digital era is a current reality rather than a mere aspiration. Mobile money transactions surpass traditional banking in both scale and reach. Digital agriculture platforms are revolutionising information access for smallholder farmers, while e-government portals are mitigating bureaucratic inefficiencies that previously hindered entrepreneurship (UNDP, 2024; ProAgri, 2019; SMART Zambia, 2024). These shifts indicate that the underpinnings of a digital economy are securely established.

Zambia is poised for a significant transformation. The distinction between incremental progress and a significant advancement is contingent upon the nation's capacity to address the existing disparities: urban versus rural, affluent versus impoverished, male versus female, and digitally literate versus digitally excluded populations. Kemp (2025) observes that only about one-third of Zambians actively use the internet, despite widespread mobile coverage, highlighting the need for inclusive strategies.

The demographic profile of Zambia, characterized by nearly 60% of its population being under the age of 25, presents a significant opportunity. Investments in digital skills, affordable devices, and accessible connectivity could enable Zambia to cultivate a new generation of innovators, job creators, and knowledge workers capable of competing on both regional and global scales. Evidence of this potential is already demonstrated by universities, hubs, and start-ups; however, achieving scale and securing policy support are crucial (World Bank, 2024; ZICTA, 2025).

Simultaneously, challenges including elevated data costs, inadequate rural infrastructure, cyber fraud, and policy uncertainty pose risks to progress. In the absence of intentional measures, these obstacles may solidify disparities in digital access. If neglected, Zambia risks developing a dual economy, characterized by a digitally empowered elite flourishing alongside a majority that remains excluded from contemporary opportunities.

The stakes are significant. Zambia is not only developing networks and applications but also reconfiguring the foundational structure of its economy and society. Digital transformation has the potential to reduce reliance on copper, enhance public institutions, empower women and rural communities, and foster resilience in the face of climate challenges (AfDB, 2023).

Zambia is positioned to transition from a resource-driven economy to one that is knowledge-driven. The inquiry centers on the pace and equity of digital transformation's progression, rather than its inevitability. If leaders, citizens, and partners take advantage of the current opportunity, Zambia can establish a future characterized by inclusivity, ensuring that no individual is marginalized, while leveraging the digital dividend to foster sustained economic prosperity for the long term.

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